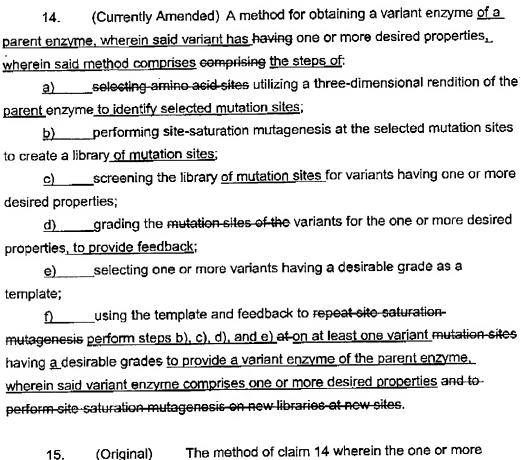
US Serial No. 10/092,227 Page 4

LIST OF CLAIMS, SHOWING THE STATUS OF EACH CLAIM

Claims 1-13. (Cancelled)



- 15. (Original) The method of claim 14 wherein the one or more desired properties are substrate activity, thermostability, stability relative to reaction environment, tonic strength range of stability, pressure stability, or pH range of stability.
- 16. (Original) The method of claim 14 wherein the one or more desired properties is substrate activity and thermostability.
- 17. (Original) The method of claim 14 wherein the enzyme is cutinase.

GC723 Office Action Response 5-14-04

12:32

US Serial No. 10/092,227 Page 5

- (Currently Amended) A process for the production of a cutinase 18. variant with hydrolytic activity on polyester, wherein the cutinase from Pseudomonas is obtained from a Pseudomonas species, the process comprising:
- a) utilizing a three-dimensional model rendition of said cutinase to select for mutation amino acid sites likely to demonstrate hydrolytic activity;
- performing site-saturation mutagenensis at the selected mutation sites to create on a library of variant amino acid sequences;
- screening the library for variants using assays to detect polyesterase activity and thermostability;
- grading the mutated sites mutated in the variants as beneficial, neutral or detrimental for both polyesterase activity and thermostability to provide feedback;
 - selecting a at least one variant having at least one beneficial grade; d)
- performing steps b), c), and d) to create creating one or more new e)_ and-repeat-libraries using the at least one selected variant and feedback from the grading.
- (New) The method of Claim 14, wherein said steps b) through f) are 19. repeated.
- (New) The method of Claim 14, wherein said steps a) through f) are 20. repeated, wherein step a) is performed on the said at least one selected variant.
- (New) The method of Claim 18, wherein said steps b) through e) are 21. repeated.
- New) The method of Claim 18, wherein said steps a) through e) are 22. repeated, wherein step a) is performed on the said at least one selected variant.